This listing of claims will replace all prior versions and listings,of claims in the application:

Listing of Claims:

1. (Currently Amended) Battery with an electrically non-conductive substrate [[(1)]] on which it is arranged, further comprising at least one cathode [[(4)]], one anode [[(6)]], and a separator/electrolyte layer [[(5)]] in form of layers or foils that are preformed from an electrochemically active or activable material and optionally a polymer matrix and/or further auxiliary substances, in corresponding sequence on the substrate [[(1)]], wherein the layer thickness of each electrode layer is ≥ 10 µm, at least one current diverter [[(7)]] and at least one battery contact ~~(2, 2a, 2b)~~ that are respectively in electrical contact with an electrode, characterized in that the battery comprises at least one first covering layer ~~(8, 16, 17, 21)~~ consisting of a first electrically insulating material that is stable in relation to the used electrolyte and electrode material and has been deposited from the gas phase or in form of a liquid or viscous paste, the covering layer forms an encapsulation with the substrate and optionally with at least one other component, by which the battery is sealed from the surrounding environment, and which is provided with at least one recess ~~(11, 18, 19)~~ that is closed by an electrically conductive material and which are connected to at least one current diverter [[(7)]] of the battery.

2. (Original) Battery according to claim 1, which comprises on top of the first covering layer a second covering layer of either a material as defined for the first covering layer or a second electrically conductive material which was also deposited from the gas phase or in form of a liquid or viscous paste.

3. (Original) Battery according to claim 2, comprising a first, a second, and a fourth covering layer made of a first electrically insulating material that is stable in relation to the used electrolyte and electrode material, deposited from the gas phase or in form of a liquid or viscous paste, and a third covering layer made of a second electrically conductive material which was also deposited from the gas phase or in form of a liquid or viscous paste, wherein the first material of the first, second, and fourth covering layer can be similar or divers.

4. (Currently Amended) Battery according to claim 1 ~~one of the previous claims~~, characterized in that the battery is covered by a second electrically non-conductive substrate [[(1)]] as further component in such a manner that the open border regions between these substrates are sealed by the covering layer(s).

5. (Currently Amended) Battery according to claim 1 ~~one of the claims 1 to 3~~, characterized in that the battery is covered by a current diverter in form of a persistent metal sheet [[(22)]] as further component in

such a manner that the open border regions between the substrate [[(1)]]and the current diverter [[(7)]] are sealed by the covering layer(s).

6. (Currently Amended) Battery according to claim 1 ~~one of the previous claims~~, characterized in that the substrate [[(1)]] or the substrates [[(1)]] is/are (a) silicon wafer, the system carrier foil of a chip card or (a) flexible polymer substrate(s).

7. (Currently Amended) Battery according to claim 1~~one of the claims 1 to 4 and 6~~, characterized in that at least the upper or top current diverter [[(7)]] has the form of a flexible prefabricated foil.

8. (Currently Amended) Battery according to claim 1~~one of the previous claims~~, characterized in that the battery contact [[(2)]] positioned on the substrate [[(1)]] has the form of a metallization or of a metallic layer glued on the substrate.

9. (Currently Amended) Battery according to claim 8, characterized in that the metallization or metallic layer is structured in such a manner that it forms beside the mentioned battery contact [[(2a)]] a second, from the mentioned battery contact separated battery contact [[(2b)]] for the counter electrode which is outside the encapsulation and that the substrate [[(1)]] optionally has feedthroughs (3) which lead away from both battery contacts ~~(2a, 2b)~~ through the substrate.

10. (Currently Amended) Battery according to claim 9, characterized in that the material of the one or of the at least one recess ~~(18, 19)~~ sealed with an electrically conductive material is in conductive contact by means of a layer of electrically conductive material [[(11)]] with the second battery contact [[(2b)]] or that this material [[(11)]] is a component of the mentioned layer made of electrically conductive material [[(11)]] which is in conductive contact with the second battery contact [[(2b)]].

11. (Currently Amended) Battery according to claim 1~~one of the previous claims~~, characterized in that the electrically conductive material with which the recess(es) are sealed, is a metal or metal alloy.

12. (Currently Amended) Battery according to claim 1~~one of the previous claims~~, characterized in that the first electrically insulating material of the covering layer is selected from parylene, non-conductive inorganic-organic polymeric materials with battery properties, Al_2O_3, SiO_2, SiO_yN_x, and epoxy resins.

13. (Currently Amended) Battery according to claim 8 ~~claims 8 and 11~~, characterized in that the second battery contact is formed as frame-shaped metallization [[(2b')]] which is laid around the first battery contact [[(2a)]], and that the mentioned electrically conductive material [[(11)]] covers the complete battery and is in persistent contact with the metallization [[(2b')]].

14. (Currently Amended) Battery according to claim 1~~one of the previous claims~~, further comprising an entry channel [[(30)]] to the separator/electrolyte layer which extends through the substrate [[(1)]] and is sealed or can be sealed from the surrounding environment [[(31)]].

15. (Currently Amended) Battery according to claim 1~~one of the previous claims~~, characterized in that the battery comprises a multiple sequence of electrodes [[(15)]] and separator/electrolyte layers in form of flexible prefabricated foils made of electrochemically active or activable material and optionally a polymer matrix and/or further auxiliary substances, wherein each a current diverter is positioned between two rectified electrodes and a separator/electrolyte layer is positioned between two counter directed electrodes, and wherein all current diverters which are in contact with the electrodes of equal polarity, are in contact with a recess ~~(18, 19)~~ respectively which is sealed with an electrically conductive material, and wherein the recesses ~~(18, 19)~~ are in conductive contact with structured metallizations in such a manner that a conductive contact is present between each the electrically rectified current diverters and one of two battery contacts ~~(2a, 2b)~~ and/or one of two feedthrough(s) [[(3)]] which lead away through the substrate [[(1)]].

16. (Currently Amended) Plurality of batteries according to claim 1 ~~one of the previous claims~~, characterized in that each battery is positioned on the same electrically non-conductive substrate [[(1)]].

17. (Original) Plurality of batteries according to claim 16, characterized in that the electrodes, electrolyte layers and current diverters of each battery are arranged in the same plane.

18. (Currently Amended) Use of at least one battery according to claim 1~~one of the claims 1 to 15 or a plurality of batteries according to claims 16 or 17~~ in a system with independent energy source positioned on a silicon wafer or chip, characterized in that the electrically non-conductive substrate [[(1)]] of the battery(ies) is part of the silicon wafer or chip.

19. (Currently Amended) Use according to claim 18, wherein the system further comprises at least one solar cell, which is preferably positioned on the opposite side of the or one of the substrate(s) [[(1)]].

20. (Currently Amended) Method of manufacturing a battery according to claim 1~~one of the claims 1 to 15~~ comprising the following steps:

(i) Providing a substrate [[(1)]],

(ii) Applying a battery contact layer [[(2)]] on the substrate [[(1)]],

(iii) Applying an electrode layer [[(4)]],

(iv) Applying a separator/electrolyte layer [[(5)]] on the electrode layer [[(4)]],

(v) Applying a counter electrode layer [[(6)]] on the separator/electrolyte layer [[(5)]],

(vi) Applying a current diverter layer [[(7)]],

wherein the steps (ii) to (vi) can be performed subsequently or simultaneously or wherein at first step (ii) and then at the same time steps (iii) to (vi) may be performed, or wherein at first step (ii) is performed and then the steps (iii) to (vi) are repeated several times simultaneously or subsequently in suitable order,

(vii) Applying a first covering layer ~~(8, 16, 17, 21)~~ consisting of a first electrically insulating material that is stable in relation to the used electrolyte and electrode material from the gas phase or in form of a liquid or viscous paste and optionally a second covering layer consisting of either a material as defined for the first covering layer or a second electrically conductive material which was also deposited from the gas phase or in form of a liquid or viscous paste, and optionally further covering layers of the first or the second material in such a manner that these covering layer(s) form together with the substrate and optionally (a) further component(s) an encapsulation through which the battery is sealed from the surrounding environment,

(viii) Removing material of the covering layer(s) in such a manner that at least one persistent recess ~~(11, 18, 19)~~ is formed which uncovers at least one current diverter [[(7)]] of the battery, and

(ix) Sealing of the recess(es) ~~(11, 18, 19)~~ with a electrically conductive material.

21. (Currently Amended) Method according to claim 20, characterized in that a structured layer of electrically conductive material is deposited on at least one recess(es) ~~(11, 18, 19)~~ which is sealed with electrically conductive material in such a manner that this material forms a conductive contact between the (single) recess or those recesses which are in contact with the current diverters [[(7)]] with counter polarity of the battery contact [[(2a)]], and the separated battery contact [[(2b)]].

22. (Currently Amended) Method according to claim 21, wherein the steps (iii) to (vi) are performed simultaneously or subsequently several times in such a manner that each a current diverter is positioned between two rectified electrodes and a separator/electrolyte layer is positioned between two counter directed electrodes, wherein the removal of material of covering layer(s) according to step (viii) is performed in such a manner that substantially all current diverters [[(7)]] of the battery are uncovered, so that subsequently all recess(es) ~~(18, 19)~~ can be sealed according to step (ix) with an electrically conductive material and that a conductive contact [[(11)]] between all current diverters which are in contact with electrodes of equal polarity, and the corresponding battery contact ~~(2a, 2b)~~, and/or one of both feedthrough(s) [[(3)]] is achieved.

23. (Currently Amended) Method according to claim 22, characterized in that the sealing of the recesses ~~(18, 19)~~ and the manufacture of a conductive contact [[(11)]] is performed in subsequent steps or in a single step by applying a structured metallization.

24. (Currently Amended) Method according to claim 1 ~~one of the claims 20 to 23~~, characterized in that the battery contact layer [[(2)]] is deposited by deposition of metal from the gas phase and especially by vacuum deposition.

25. (Currently Amended) Method according to claim 24, characterized in that the battery contact layer [[(2)]] is deposited in a structured manner or is structured after its deposition so that it forms beside the mentioned battery contact [[(2a)]] a second battery contact [[(2b)]] for the counter electrode which is separated from the mentioned battery contact, which is outside the encapsulation, wherein as substrate [[(1)]] a substrate is used which has feedthroughs [[(3)]] which are arranged in such a manner that they lead away from both battery contacts ~~(2a, 2b)~~ through the substrate.

26. (Currently Amended) Method for manufacturing a plurality of batteries according to claim 16~~one of the claims 16 or 17~~ comprising the following steps:

(i) Providing a substrate [[(1)]],

(ii) Applying a structured battery contact layer with each two contacts ~~(2a, 2b)~~ per battery on the substrate [[(1)]],

(iii) Applying a structured electrode layer with each an electrode surface (4) per battery,

(iv) Applying a structured separator/electrolyte layer with each a separator/electrolyte surface [[(5)]] per battery in such a manner that they cover substantially or exactly or extend slightly over these electrode surfaces [[(4)]] of the layer of step (iii),

(v) Applying a structured counter electrode layer with each an electrode surface [[(6)]] per battery in such a manner that they cover substantially or exactly or extend in comparison to them slightly before the separator/electrolyte layers [[(5)]] of the layer of step (iv),

(vi) Applying a structured current diverter layer with each a current diverter surface [[(7)]] per battery in such a manner that they cover substantially or exactly or extend slightly over the underlying electrode surface ~~(4, 6)~~,

wherein the steps (ii) to (vi) can be performed subsequently or simultaneously or wherein at first step (ii) and then at the same time steps (iii) to (vi) may be performed, or wherein at first step (ii) is performed and then the steps (iii) to (vi) are repeated several times simultaneously or subsequently in suitable order,

(vii) Applying a first covering layer ~~(8, 16, 17, 21)~~ of a first electrically insulating material that is stable in relation to the used electrolyte and electrode material from the gas phase or in form of a liquid or viscous paste

and optionally a second covering layer of either a material as defined for the first covering layer or a second electrically conductive material which was also deposited from the gas phase or in form of a liquid or viscous paste, and optionally further covering layers of the first or the second material in such a manner that these covering layer(s) form(s) together with the substrate und optionally (a) further component(s) a separate encapsulation for each battery through which the batteries are sealed from the surrounding environment,

(viii) Removing material of the covering layer(s) in such a manner that at least one persistent recess ~~(11, 18, 19)~~ is formed per battery which uncovers at least one current diverter [[(7)]] of the battery, and

(ix) Sealing of the recess(es) ~~(11, 18, 19)~~ with an electrically conductive material.

27. (Currently Amended) Method according to claim 20 ~~one of the claims 20 to 26~~, characterized in that a part of or all steps (iii) to (vi) are performed by depositing prestructured materials which are provided on a support carrier.

28. (Original) Method according to claim 27, characterized in that the prestructured materials are deposited on the support carrier by means of a printing method or by means of lithographic methods and etching methods or were structured on the support carrier by means of methods such as laser structuring, water jet processing or mechanical removal.

29. (Currently Amended) Method according to claim 26~~one of the claims 26 to 28~~, characterized in that the removal is performed mechanically by generating persistent channels [[(19)]], wherein each channel uncovers simultaneously several current diverters [[(7)]].

30. (Currently Amended) Method according to claim 20~~one of the claims 20 to 26~~, characterized in that a part of or all steps (iii) to (vi) are performed by applying persistent layers which are structured after the application.

31. (Original) Method according to claim 30, characterized in that the structurings are performed by means of lithographic methods, etching methods and/or pattern processes.

32. (Original) Method according to claim 30, characterized in that the persistent layers are applied lying on a support carrier and then this is removed.

33. (Currently Amended) Method according to claim 30, characterized in that the materials of the layers ~~(4, 5, 6 and/or 7)~~ are selfsupporting foils.

34. (Currently Amended) Method according to claim 20~~one of the claims 20 to 33~~, wherein the layers ~~(4, 5, 6 and/or 7)~~ are laminated on.

35. (Currently Amended) Method according to claim 24 [[or 25]], characterized in that the structuring of the battery contact layer [[(2)]] is performed by means of a mechanical method such as water jet processing, by laser processing, chemically by chemical etching, by galvanic methods and/or by means of patterns.

36. (Currently Amended) Method according to claim 20 ~~one of the claims 20 to 35~~, characterized in that prior to applying the first covering layer a drying is performed in an inert gas oven or under vacuum.

37. (Currently Amended) Method according to claim 20~~one of the claims 20 to 36~~, characterized in that the separator/electrolyte layer and if necessary the electrode layers are filled with electrolyte fluid and the battery is formed prior to encapsulation.

38. (Currently Amended) Method according to claim 20~~one of the claims 20 to 36~~, characterized in that besides the removal of material of the covering layer(s) according to step (vii) for uncovering of at least one current diverter further material is removed from this/these layer(s) in such a manner that an uncovering of the separator/electrolyte layer is performed, wherein the uncovered separator/electrolyte layer is filled with electrolyte fluid and the recess(es) formed by the removal is/are then sealed again.

39. (Currently Amended) Method according to claim 20 ~~one of the claims 20 to 36~~, characterized in that the separator/electrolyte layer is filled with electrolyte fluid via a channel [[(30)]] in the substrate [[(1)]] and then the channel [[(30)]] is sealed whereupon the battery is formed.

40. (Currently Amended) Method according to claim 20 ~~one of the claims 20 to 39~~, characterized in that the removal of material of the covering layer(s) according to step (vii) is performed by means of plasma-enhanced methods, especially reactive ion etching or ion bombardment, by wet-chemical etching, by laser processing or by a mechanical method such as sawing, milling or water jet processing, wherein the etching methods comprise a lithography step for transferring the contact image.

41. (Currently Amended) Method of manufacturing a battery according to claim 20~~one of the claims 1 to 15~~, characterized in that by means of the method according to ~~one of the claims~~ 26 [[to 40]] a plurality of batteries is manufactured and that these are then isolated by separating the substrate between the batteries.

42. (New Claim) Use of a plurality of batteries according to claim 16 in a system with independent energy source positioned on a silicon wafer or chip, characterized in that the electrically non-conductive substrate of the batteries is part of the silicon wafer or chip.